:: TRANSGENIC CELL MODELS ::

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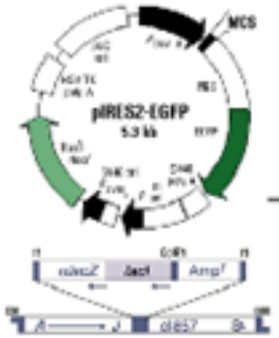
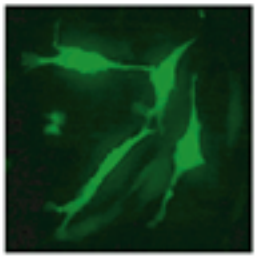
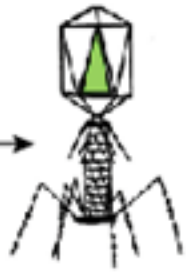
Overview



Transgenic targets



Stable transgenic cell lines



Quantification of intended target

Approach

Utilize transgenic targets:

- To enhance sensitivity of detection as mammalian cell to-digital signal converters
- Quantify the effect of environmental stressors on cell processes such as:

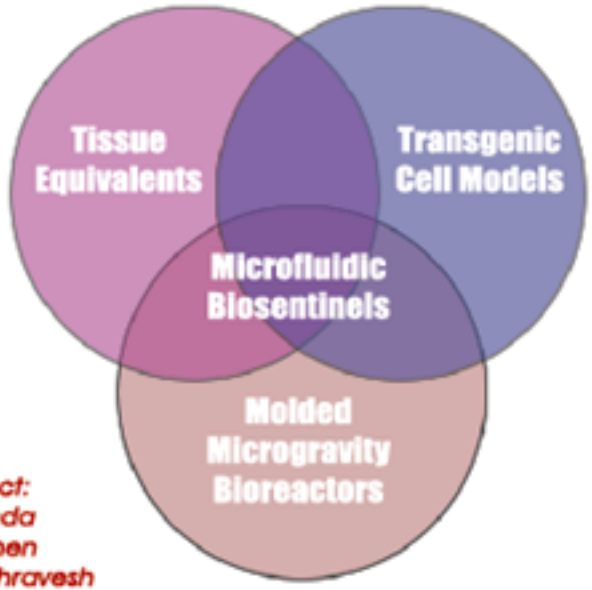
- DNA damage
- Orientation of subcellular components
- Transduction
- Cell division
- Programmed cell death
- Cellular movement
- Synthesis and orientation of macromolecules
- Gene expression

NASA Significance

Cells may experience many environmental stressors when exposed to an extraterrestrial environment. The quantification of the effects of these stressors is paramount for long term space exploration.

Basic research on cells and tissues can be used as a method to test the impact of long term space flight and extend the outer limits of manned space flight. The use of transgenic targets can enhance the signal and automate data acquisition to enable unmanned research missions to test the effect of various space associated environmental stressors without risk to man.

Project Interactions



Points of Contact:
Dr. Steve R. Gonda
Dr. Raimo Pollanen
Dr. Esfandiar Behravesh